

APPENDIX B

Benefit Estimate Details

Trail to Northport

Option 1: Improve Existing Highway 22A and Existing Northport Boundary Road (includes new bridges at Waneta and Deep Creek)

Option 2: Build New Highway on West side of Columbia River from Trail to Northport

Option 3 ; Improve Existing Highway 22A and cross at Waneta to New Highway on West side (includes new bridge across Columbia River)

Account (Canadian \$)	Improvement Option		
	Option 1	Option 2	Option 3
Customer Service Account (Present Value @ 6% Discount for 20 years)			
Mobility - Re-Routed Vehicles from Patterson/Frontier to Waneta/Boundary	\$ 5,271,883.00	\$ 1,757,294.33	\$ 1,757,294.33
Mobility - Improvements to for all users on Existing Highway	\$ 9,654,248.87	\$ 3,043,565.01	\$ 10,528,244.30
Safety - Improved Safety due to Improved Highways	\$ 1,677,009.24	\$ -	\$ 1,677,009.24
Total Benefits	\$ 16,603,141.11	\$ 4,800,859.34	\$ 13,962,547.88
Financial Account (Present Value @ 6% Discount Rate for 20 years)			
Total Roadway Improvements + Infrastructure	\$ 46,144,534.44	\$ 46,625,171.56	\$ 47,915,548.31
Salvage Value	\$ 9,228,906.89	\$ 9,325,034.31	\$ 9,583,109.66
Maintenance	\$ 1,151,372.17	\$ 2,220,668.84	\$ 1,132,368.94
Total Costs	\$ 38,066,999.72	\$ 39,520,806.09	\$ 39,464,807.59
Economic Indicators			
Benefit Cost Ratio	0.44	0.12	0.35
Net Present Value	\$ (21,463,858.61)	\$ (34,719,946.75)	\$ (25,502,259.71)
NPV / Cost Ratio	-0.56	-0.88	-0.65

Account (US \$)	Improvement Option		
	Option 1	Option 2	Option 3
Customer Service Account (Present Value @ 6% Discount for 20 years)			
Mobility - Re-Routed Vehicles from Patterson/Frontier to Waneta/Boundary	\$ 4,368,807.07	\$ 1,456,269.02	\$ 1,456,269.02
Mobility - Improvements to for all users on Existing Highway	\$ 5,272,288.95	\$ 1,303,571.39	\$ 5,656,899.76
Safety - Improved Safety due to Improved Highways	\$ 495,396.73	\$ -	\$ 495,396.73
Total Benefits	\$ 10,136,492.76	\$ 2,759,840.42	\$ 7,608,565.52
Financial Account (Present Value @ 6% Discount Rate for 20 years)			
Total Roadway Improvements + Infrastructure	\$ 37,827,032.96	\$ 38,223,025.56	\$ 39,281,134.49
Salvage Value	\$ 7,565,406.59	\$ 7,644,605.11	\$ 7,856,226.90
Maintenance	\$ 943,747.68	\$ 1,820,577.18	\$ 928,171.26
Total Costs	\$ 31,205,374.05	\$ 32,398,997.63	\$ 32,353,078.85
Economic Indicators			
Benefit Cost Ratio	0.32	0.09	0.24
Net Present Value	\$ (21,068,881.29)	\$ (29,639,157.21)	\$ (24,744,513.33)
NPV / Cost Ratio	-0.68	-0.91	-0.76

Northport to Colville

Option 1: Improve Existing SR 25 and use Existing US 395

Option 2: Improve Existing SR 25 and use Improved Williams Lake Road

Option 3 ; Improve Existing Aladdin Road (re-route traffic from SR 25)

Account (Canadian \$)	Improvement Option		
	Option 1	Option 2	Option 3
Customer Service Account (Present Value @ 6% Discount for 20 years)			
Mobility - Improvements for Re-Routed Traffic	\$ -	\$ 13,275,784.38	\$ 9,482,703.13
Mobility - Improvements to for all users on Existing Highway	\$ 39,264,376.58	\$ 26,344,717.13	\$ 52,325,534.17
Safety - Improved Safety due to Improved Highways	\$ 91,903.24	\$ -	\$ -
Total Benefits	\$ 39,356,279.82	\$ 39,620,501.51	\$ 61,808,237.29
Financial Account (Present Value @ 6% Discount Rate for 20 years)			
Total Roadway Improvements + Infrastructure	\$ 51,897,464.25	\$ 46,541,562.83	\$ 68,273,554.89
Salvage Value	\$ 10,379,492.85	\$ 9,308,312.57	\$ 13,654,710.98
Maintenance	\$ -	\$ 2,235,674.12	\$ 4,188,535.46
Total Costs	\$ 41,517,971.40	\$ 39,468,924.38	\$ 58,807,379.36
Economic Indicators			
Benefit Cost Ratio	0.95	1.00	1.05
Net Present Value	\$ (2,161,691.58)	\$ 151,577.13	\$ 3,000,857.93
NPV / Cost Ratio	-0.05	0.00	0.05

Account (US \$)	Improvement Option		
	Option 1	Option 2	Option 3
Customer Service Account (Present Value @ 6% Discount for 20 years)			
Mobility - Improvements for Cross-Border Traffic	\$ -	\$ 10,600,842.84	\$ 7,572,030.60
Mobility - Improvements to for all users on Existing Highway	\$ 28,936,643.89	\$ 14,759,935.14	\$ 29,295,679.73
Safety - Improved Safety due to Improved Highways	\$ 105,695.03	\$ -	\$ -
Total Benefits	\$ 29,042,338.92	\$ 25,360,777.97	\$ 36,867,710.33
Financial Account (Present Value @ 6% Discount Rate for 20 years)			
Total Roadway Improvements + Infrastructure	\$ 42,538,905.12	\$ 38,148,821.99	\$ 55,961,930.23
Salvage Value	\$ 8,507,781.02	\$ 7,629,764.40	\$ 11,192,386.05
Maintenance	\$ -	\$ 1,832,519.77	\$ 3,433,225.78
Total Costs	\$ 34,031,124.10	\$ 32,351,577.36	\$ 48,202,769.97
Economic Indicators			
Benefit Cost Ratio	0.85	0.78	0.76
Net Present Value	\$ (4,988,785.18)	\$ (6,990,799.39)	\$ (11,335,059.64)
NPV / Cost Ratio	-0.15	-0.22	-0.24